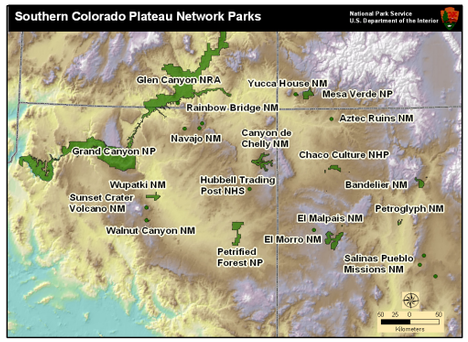
The Southern Colorado Plateau Network



The Southern Colorado Plateau Network (SCPN) includes 19 parks and monuments situated throughout the diverse landscapes of northern Arizona, northwestern New Mexico, southwestern Colorado and southeastern Utah. Sometimes referred to as the "land of color and canyons", the Colorado Plateau is characterized by its high elevation, great topographic relief, and arid to semi-arid climate. Southern Colorado Plateau parks are dominated by grasslands, shrublands and pinyon-juniper woodland, but also include montane forests and meadows at higher elevations. The infrequent springs and streams found within SCPN parks are of particular ecological importance in these arid landscapes.

Program Goals

- Determine status and trends in selected indicators of park ecosystem conditions, allowing managers to make better-informed decisions and to work more effectively with other agencies and individuals for the benefit of park resources.
- Provide early warning of abnormal conditions of selected resources to help develop effective mitigation measures and reduce costs of management.
- Provide data that clarify the dynamic nature and condition of park ecosystems and provide reference points for comparisons with other altered environments.
- Provide data to meet certain legal and Congressional mandates related to natural resource protection and visitor enjoyment.
- Provide a means of measuring progress towards performance goals.

Vital Signs

Vital signs are selected physical, chemical and biological elements or processes of park ecosystems that represent the overall health or condition of the park. They may also be park resources or attributes that are highly valued, but not neccessarily indicative of general park health.

The vital signs can be organized into seven themes that reflect the predominant ecosystems and monitoring priorities of Southern Colorado Plateau parks.

During a three-year planning process, NPS scientists and resource managers synthesized existing information, developed conceptual models of key ecosystems, and drew on expert recommendations to determine the most important vital signs for network parks. The resulting vital signs will provide complementary information to form an overall assessment of the condition of park ecosystems. Over the next few years, network staff will work with scientists from universities and the U.S. Geological Survey to develop detailed monitoring protocols. Monitoring is expected to begin in 2007.

4 Air and Climate

Air quality
Climate

5 Landscape Pattern

Land use and land cover
Landscape vegetation pattern
- Vegetation condition
Disturbance patterns

6 Upland

Vegetation
Soils
Bird communities
Ground-dwelling arthropods
Invasive exotic plants

1 Riparian

Vegetation
Stream flow
Channel morphology
Bird communities
Invasive exotic plants

2 Water Quality

Water chemistry
Aquatic macroinvertebrates

3 Springs Ecosystems

Spring flow
Water chemistry
Vegetation
Amphibians and invertebrates

7 Wildland Values

Night sky condition
Natural soundscape condition

Science-Based Management

National Park managers face complex issues that require a broad-based understanding of the condition of park resources. This information is needed to manage park natural resources, work with other agencies and communicate park visitors, park neighbors and the general public. To help deliver the information managers need, the networks are designing a system for scientific data collection, analysis, and reporting that is unprecedented in the history of the National Park Service.

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Aztec Ruins National Monument
Bandelier National Monument
Canyon De Chelly National Monument
Chaco Culture National Historical Park
El Malpais National Monument
El Morro National Monument
Glen Canyon National Recreation Area
Grand Canyon National Park
Hubbell Trading Post National Historic Site
Mesa Verde National Park
Navajo National Monument
Petrified Forest National Park
Petroglyph National Monument
Rainbow Bridge National Monument
Salinas Pueblo Missions National Monument
Sunset Crater Volcano National Monument
Walnut Canyon National Monument
Wupatki National Monument
Yucca House National Monument

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Park Vital Signs Monitoring

Preserving the national parks unimpaired for the enjoyment of future generations is the fundamental purpose of the National Park Service. Critical to this endeavor is knowing the condition of natural resources in the national parks. To provide park managers with the information they need, the NPS has embarked on a new era of science-based management. An essential component of the strategy is park vital signs monitoring, a national effort to characterize and determine trends in the condition of park natural resources. Trend information is essential to assess the effectiveness of management and restoration activities, and to provide early warning of impending threats.